

AD-A087 455

ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2  
17901A HONEST JOHN, MISSILE NUMBER 2050, ROUND NUMBER 666 ASL, --ETC(U)  
FEB 80

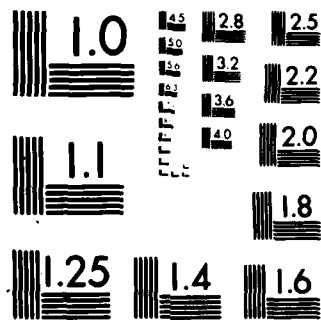
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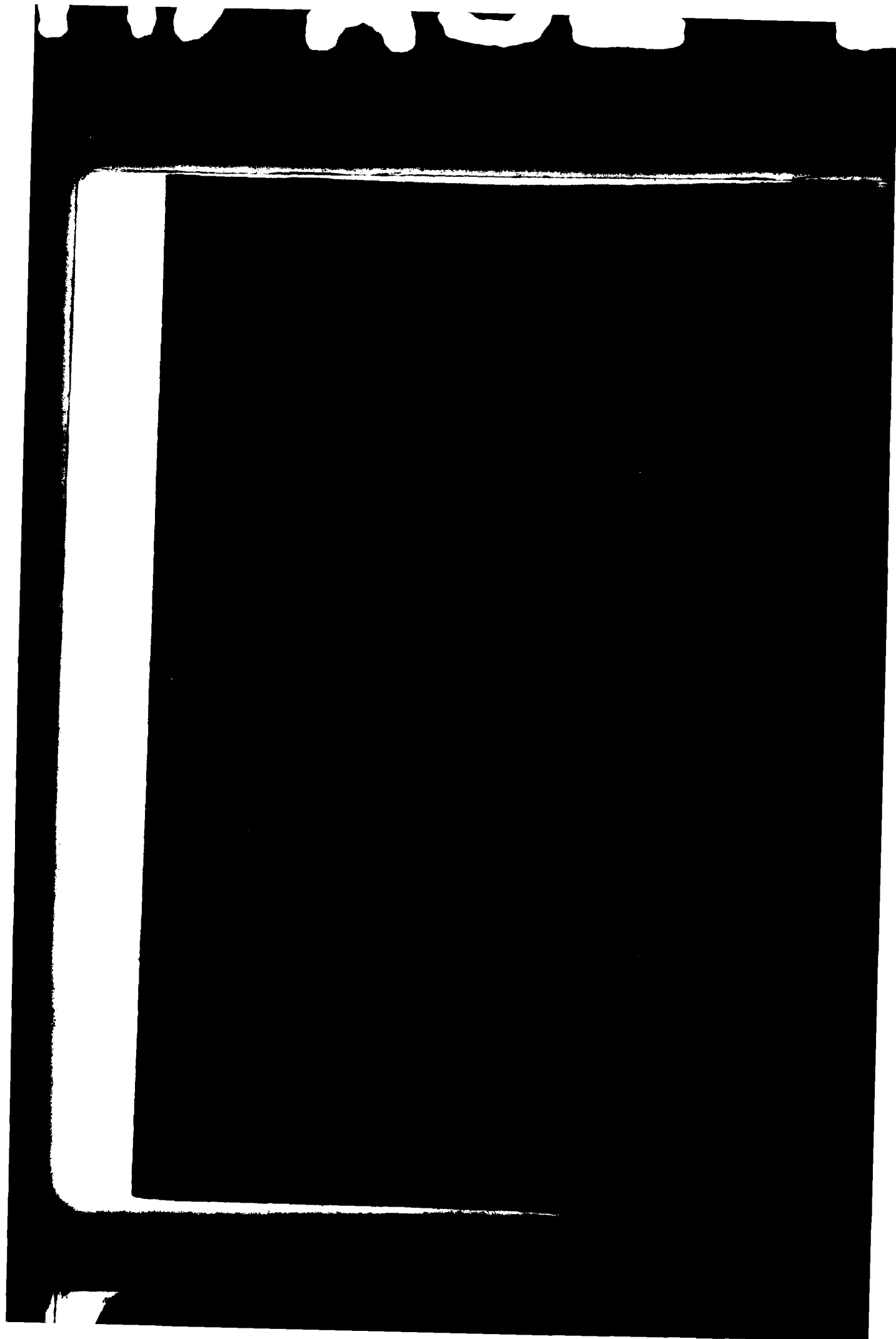
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 17901A Honest John, Missile Number 2050, Round Number 666 ASL are presented in tabular form.		

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## INTRODUCTION

17901A Honest John, Missile Number 2050, Round Number 666 ASL,  
was launched from LC-33, White Sands Missile Range (WSMR), New Mexico,  
at 1000 MST on 05 Feb 80. The scheduled launch time was  
1000 MST.

## DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team. Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

### 1. Observations

#### a. Surface

(1) Standard surface observations to include pressure, temperature ( $^{\circ}\text{C}$ ), relative humidity, dew point ( $^{\circ}\text{C}$ ), density ( $\text{gm/m}^3$ ), Wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

#### b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation at:

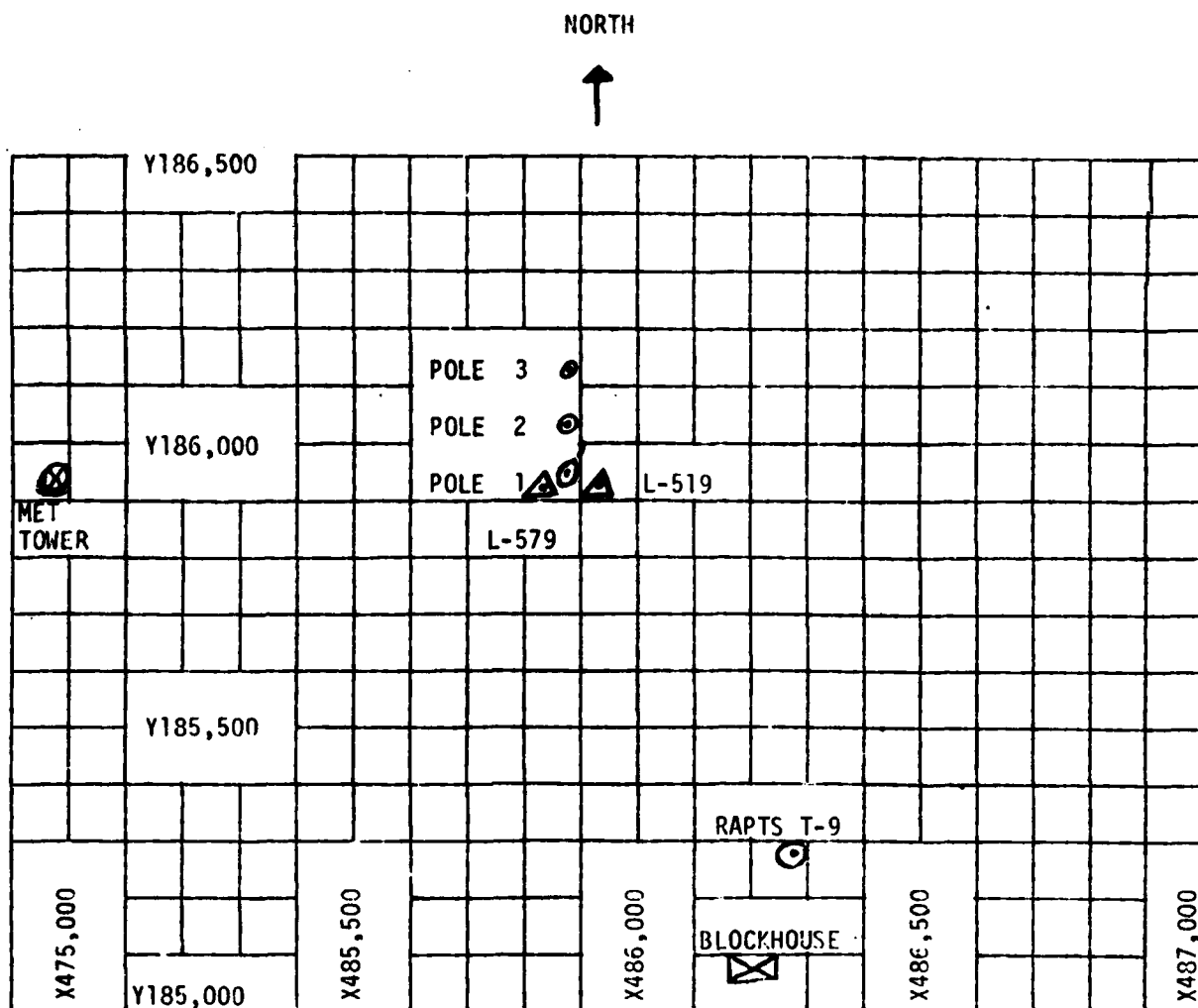
### SITE AND ALTITUDE

LC-33      4660 meters

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 33,000 feet in 500-foot increments.

### SITE AND TIME

WSD 1000 MST



1. MET TOWER - 4 Bendix Model T-20 Anemometers at 12 ft, 62 ft, 102 ft, and 202 ft with E/A recorders.
2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders.
  - (a) Pole #1 - 38.7 ft.
  - (b) Pole #2 - 53.0 ft.
  - (c) Pole #3 - 83.6 ft.
3. RAPTS T-9 Radar Automatic Pilot-Balloon Tracking System T-9 Radar.



TABLE 1. Surface Observations taken at 1000 MST,  
05 February 1980, at LC-33, 17901A Honest  
John, Missile Number 2050, Round Number  
666 ASL.

ELEVATION	3983	FT/MSL
PRESSURE	888.7	MBS
TEMPERATURE	12.9	°C
RELATIVE HUMIDITY	43	%
DEW POINT	0.6	°C
DENSITY	1077	GM/M <sup>3</sup>
WIND SPEED	Calm	KTS
WIND DIRECTION		DEGREES
CLOUD COVER	2	ci

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.93 Y186,012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	165	01	-30	124	01	-30		Calm
-20	165	01	-20		Calm	-20		Calm
-10	165	01	-10		Calm	-10		Calm
0.0	165	01	0.0		Calm	0.0		Calm
+10	168	01	+10		Calm	+10		Calm

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	137	02	-30	150	02
-20	137	01	-20	150	02
-10		Calm	-10	151	02
0.0		Calm	0.0	152	02
+10		Calm	+10	152	01

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	135	02	-30	132	03
-20	134	02	-20	132	01
-10	142	02	-10		Calm
0.0	150	01	0.0	171	01
+10	162	02	+10	173	02

## PILOT BALLOON MEASURED WIND DATA

PAGE 1 of 2 PAGES

TABLE 4RELEASED FROM LC-33DATE 05 February 1980TIME 0959:30 MSTRELEASE POINT COORDINATES (WSTM) X= 486,037.24 Y= 182,350.16 H= 3977.30

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL XX OR FEET AGL     .

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC		Calm
30		Calm
60		Calm
90	360	01
120	360	01
150	032	03
180	063	06
210	105	05
240	146	03
270	134	02
300	122	01
330	146	02
360	170	03
390	167	03
420	163	03
450	162	03
480	160	03
510	088	04
540	016	05
570	340	04
600	303	02
630	325	05
660	346	08
690	346	09
720	345	10
750	350	12
780	355	13
810	352	15
840	348	17
870	350	17
900	351	17

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
930	356	16
960	001	15
990	003	16
1020	004	17
1050	007	18
1080	010	18
1110	017	18
1140	023	17
1170	022	16
1200	020	15
1230	022	13
1260	024	11'
1290	026	12
1320	027	13
1350	024	12
1380	021	11
1410	021	11
1440	021	10
1470	010	08
1500	358	06
1530	355	06
1560	352	06
1590	356	05
1620	359	05
1650	019	07
1680	039	08
1710	041	07
1740	042	06
1770	046	06
1800	050	06
1830	056	05

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
1860	062	04
1890	031	05
1920	360	06
1950	358	08
1980	355	09
2010	006	10
2040	016	10
2070	010	14
2100	003	17
2130	003	17
2160	003	17
2190	358	17
2220	352	16
2250	351	16
2280	349	15
2310	345	15
2340	341	15
2370	344	14
2400	346	13
2430	347	13
2460	347	12
2490	344	13
2520	340	13
2550	344	13
2580	348	13
2610	347	13
2640	346	12
2670	342	13
2700	338	13
2730	342	13
2760	345	12

[illegible]

STATION ALTITUDE 3989.00 FEET MSL  
5 FEB. 60  
ASCENSION NO. 50

SIGNIFICANT LEVEL DATA  
0360020050  
WHITE SANDS

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

TABLE 5

PRESSURE	GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	
888.5	3989.0	10.0	-8.6	47.0
864.0	4749.1	7.6	-3.0	47.0
850.0	5190.8	7.1	-4.3	44.0
777.8	7580.7	5.5	-15.1	21.0
757.2	8301.4	5.8	-17.3	17.0
700.0	10398.9	2.5	-20.0	17.0
678.8	11213.6	1.3	-20.4	18.0
614.0	13840.2	-4.0	-23.4	17.0
605.0	14222.8	-4.2	-25.5	17.0
579.2	15345.6	-7.2	-28.0	17.0
546.2	16841.4	-9.7	-29.5	18.0
530.2	17595.8	-9.8	-29.6	18.0
507.0	19075.4	-12.8	-32.7	17.0
477.0	20250.4	-15.0	-34.4	18.0
420.8	23311.6	-23.9	-38.3	25.0
400.0	24520.7	-27.5	-38.4	42.0
375.8	25280.9	-31.4	-38.1	51.0
357.6	27137.2	-34.2	-40.4	53.0
340.2	28280.2	-36.6	-40.3	58.0
305.5	30698.9	-43.2	-50.5	44.0
300.0	31100.5	-44.6		
270.4	33365.2	-49.6		

STATION ALTITUDE 9989.00 FEET MSL  
 5 FEB. 50 1000 HRS MSL  
 ASCENSION. NO. 50

UPPER AIR DATA  
 0560020050  
 WHITE SANDS  
 TABLE 6

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (DEGREES) WIND SPEED KNOTS	INDEX OF REFRACTION
3989.00	888.5	10.0	-0.8	47.0	1090.5	630.4	0.0	1.000270
4000.0	888.1	10.0	-0.8	47.0	1090.2	630.3	0.0	1.000270
4500.0	872.0	8.4	-2.3	47.0	1073.5	634.4	0.0	1.000265
5000.0	850.0	7.3	-3.7	45.3	1061.1	633.1	0.0	1.000259
5500.0	840.3	6.4	-5.4	41.0	1043.4	632.5	0.0	1.000252
6000.0	824.8	6.6	-7.3	35.2	1025.6	632.1	0.0	1.000246
6500.0	809.7	6.2	-9.5	31.4	1008.2	631.0	3.0	1.000239
7000.0	794.8	5.9	-11.8	26.6	991.1	631.2	9.2	1.000233
7500.0	780.1	5.6	-14.6	21.8	974.2	630.7	14.2	1.000227
8000.0	765.7	5.7	-16.3	18.7	955.9	630.8	19.8	1.000221
8500.0	751.6	5.5	-17.6	17.0	938.9	630.0	27.5	1.000217
9000.0	737.6	4.7	-14.2	17.0	924.2	649.0	31.1	1.000213
9500.0	724.0	3.9	-19.9	17.0	909.6	646.7	31.2	1.000209
10000.0	710.5	3.1	-19.5	17.0	895.3	647.8	21.1	1.000206
10500.0	697.3	2.4	-20.1	17.1	881.2	648.8	0.3	1.000202
11000.0	684.3	1.6	-20.3	17.7	867.0	648.0	355.9	1.000199
11500.0	671.4	0.7	-20.9	17.9	853.5	644.9	348.7	1.000196
12000.0	658.7	-0.3	-21.9	17.7	840.5	643.7	343.0	1.000193
12500.0	646.3	-1.3	-22.8	17.5	827.7	642.5	337.9	1.000189
13000.0	634.0	-2.3	-23.8	17.3	815.1	641.3	334.0	1.000186
13500.0	622.0	-3.3	-24.7	17.1	802.7	640.1	331.0	1.000183
14000.0	610.2	-4.1	-25.4	17.0	789.7	639.2	329.7	1.000180
14500.0	598.5	-4.9	-26.2	17.0	777.0	638.2	328.7	1.000177
15000.0	587.0	-6.3	-27.3	17.0	765.0	636.6	327.5	1.000174
15500.0	575.7	-7.5	-28.2	17.1	754.5	635.1	324.7	1.000171
16000.0	564.5	-8.3	-28.7	17.4	742.2	634.1	322.2	1.000168
16500.0	553.6	-9.1	-29.2	17.8	730.1	633.1	320.8	1.000166
17000.0	542.8	-9.7	-29.5	18.0	717.5	632.4	319.5	1.000163
17500.0	532.2	-9.8	-30.6	18.0	703.7	632.3	318.3	1.000160
18000.0	521.8	-10.6	-30.4	17.7	692.1	631.3	317.2	1.000157
18500.0	511.5	-11.6	-31.5	17.4	681.2	630.1	316.5	1.000154
19000.0	501.5	-12.6	-32.5	17.1	670.4	628.9	315.8	1.000152
19500.0	491.6	-13.8	-33.3	17.4	660.1	627.5	315.5	1.000149
20000.0	481.8	-15.0	-34.0	17.8	650.0	626.0	315.3	1.000147
20500.0	472.1	-16.3	-34.7	18.6	640.2	624.5	314.9	1.000144
21000.0	462.6	-17.6	-35.2	19.7	630.5	622.8	313.9	1.000142
21500.0	453.2	-19.0	-35.8	20.9	621.0	621.2	312.9	1.000140
22000.0	444.0	-20.3	-36.4	22.0	611.7	619.5	311.0	1.000138
22500.0	435.0	-21.7	-37.1	23.1	602.8	617.8	309.1	1.000136
23000.0	426.2	-23.1	-37.8	24.3	593.6	616.2	307.2	1.000134

STATION ALTITUDE 9989.00 FEET MSL  
 5 FEB. 63  
 ASCENDING 100. 50

UPPER AIR DATA  
 0360020050  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LONG DEG

TABLE 6 (cont)

GROSS/INIT ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METE	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
23500.0	417.5	-24.5	27.6	584.7	614.4	305.3	32.1	1.000132
24000.0	406.8	-25.9	34.7	576.0	612.6	304.0	32.9	1.000130
24500.0	400.3	-27.4	41.7	567.5	610.7	303.8	33.0	1.000128
25000.0	391.9	-28.8	44.9	558.6	609.1	303.7	33.1	1.000126
25500.0	383.7	-30.1	48.0	549.8	607.4	305.1	32.3	1.000124
26000.0	375.6	-31.4	51.0	541.2	605.8	306.5	31.6	1.000122
26500.0	367.6	-32.6	51.9	532.3	604.2	308.1	30.2	1.000120
27000.0	359.7	-33.9	52.8	523.6	602.7	309.9	28.7	1.000118
27500.0	352.0	-35.0	47.6	514.9	601.2	310.5	27.5	1.000116
28000.0	344.4	-36.2	43.2	506.2	599.3	310.4	26.4	1.000113
28500.0	336.9	-37.4	36.7	497.7	598.2	309.3	26.4	1.000111
29000.0	329.5	-38.7	38.4	489.5	596.5	307.3	27.3	1.000110
29500.0	322.2	-40.0	40.0	481.5	594.8	305.5	28.5	1.000108
30000.0	315.1	-41.4	41.7	473.6	593.2	304.3	30.5	1.000106
30500.0	308.2	-42.7	43.3	465.8	591.5	303.3	32.4	1.000104
31000.0	301.4	-44.2	11.0**	458.0	589.4	304.0	32.8	1.000102
31500.0	294.0	-45.5		450.7	587.8	304.7	33.1	1.000100
32000.0	287.9	-46.6		442.0	586.4			1.000099
32500.0	281.5	-47.7		434.7	585.0			1.000097
33000.0	275.0	-48.8		427.0	583.3			1.000095

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL  
 5 FEB. 59  
 ASCENSION NO. 50

MANDATORY LEVELS  
 0360020050  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LONG DEG

TABLE 7

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	5187.	7.1	-4.3	44.	06	5.4	
800.0	6819.	6.0	-11.0	28.	7.2	11.9	
750.0	8550.	5.4	-17.7	17.	28.5	10.3	
700.0	10389.	2.5	-20.0	17.	9.1	7.4	
650.0	12341.	-1.0	-22.5	16.	339.4	12.1	
600.0	14420.	-4.8	-26.0	17.	326.9	14.1	
550.0	16644.	-9.4	-29.3	18.	320.4	17.2	
500.0	19049.	-12.8	-32.7	17.	315.0	21.5	
450.0	21652.	-19.5	-36.0	21.	312.3	18.1	
400.0	24480.	-27.5	-36.4	42.	303.8	33.0	
350.0	27591.	-35.3	-42.3	40.	310.4	27.3	
300.0	31039.	-44.6			304.1	32.8	

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.